

Work Order ID 147333

Wednesday, June 08, 2016 2:54:20 PM

147333

Page 1

Item ID: D5951 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle
 Start Date: 5/27/2016 Start Qty: 400 ***4*** Cust Item ID:
 Required Date: 6/8/2016 Req'd Qty: 400 ***4*** Customer:
 Reference:

Approvals: Process Plan: ML5 Date: JUN 10 2016 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D5951	Rev B								
100	HAAS CNC VERTICAL MACHINING #1	0.00							DAS 33 9-89 <u>16/06/21</u>
100									
HAAS 1	Memo	1.45							
HAAS CNC vertical machine #1	1-Machine as per folio D5951, Ensure Batch Number is entered 2-Machine Keyway 3-Deburr & Tumble								
110	QC1- Inspection performed by CMM	0.00							DAS 33 9-89 <u>16/06/21</u>
110									
QC	Memo	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							DAS 08 9-89
120									
QC	Memo	0.01							
Quality Control									

16/06/23

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 147333

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Item ID: D5951 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle
 Start Date: 5/27/2016 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 6/8/2016 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00							
130									
HandFinish	Memo	0.05							
Hand Finishing									14/06/29.
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
140									
Powdercoat	Memo	0.03							
Powder Coating	START TIME: <u>3:25</u> OVEN TEMPERATURE: <u>3:50</u>								
	FINISH TIME: <u>3:50</u>								
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.01							
Quality Control									

DAS
38
9-89
JUN 30 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 				
Description Work Order Deviation				Disposition							
							Completed By				
							Lead hand / Supervisor Approval Verification				
					QC / QA Coordinator Approval						
Root Cause				FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : ☐											

Work Order ID 147333

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Item ID: D5951 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Saddle
Start Date: 5/27/2016 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 6/8/2016 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: S399	0.00							
160									
Packaging	Memo	0.01							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.07							
Quality Control									

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9-89

JUL 04 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER :							
Misidentified ☐	☐	Past Due								

Picklist Print

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Page 1

Work Order ID: 147333

147333

Parent Item: D5951

D5951

Parent Item Name: Saddle

Start Date: 5/27/2016

Required Date: 6/8/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:E Re-Format 05-11-29 JLM
IPP Rev:E Re-Format 05-11-29 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6101-013		Manufactured	No			100	Each	8.0000	1	4			
D6101-013									**				
Saddle Billet													

Location

Loc Qty

Loc Code

MAT044

8

135835

8

B146280

6

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9-89

16-06-20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval				
Description Work Order Deviation				Disposition				Completed By			
								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			
Root Cause				FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
				OTHER : ☐							

DART AEROSPACE LTD		Work Order:	177333
Description: Outer Fwd Saddle		Part Number:	D5951
Inspection Dwg: D5951	Rev: B	Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.437	0.444		0.439	0.439	0.439	0.439		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	5.245	5.255		5.250	5.250	5.250	5.250		
D	6.995	7.005		7.000	7.000	7.000	7.000		
E	5.240	5.260		5.250	5.250	5.250	5.250		
F	4.745	4.755		4.750	4.750	4.750	4.750		
G	0.315	0.322		0.316	0.316	0.316	0.316		
H	1.522	1.532		1.527	1.527	1.527	1.527		
I	3.048	3.058		3.053	3.053	3.053	3.053		
J	4.575	4.585		4.580	4.580	4.580	4.580		
K	0.315	0.322		0.317	0.317	0.317	0.317		
L	0.495	0.505		0.500	0.500	0.500	0.500		
M	0.490	0.510		0.501	0.498	0.500	0.500		
N	1.615	1.635		1.625	1.625	1.625	1.625		
O	7.990	8.010		8.000	8.000	8.000	8.000		
P	2.240	2.260		2.250	2.250	2.250	2.250		
Q	0.307	0.312		0.311	0.311	0.311	0.311		
R	0.760	0.765		0.760	0.760	0.760	0.760		
S	0.490	0.510		0.503	0.500	0.499	0.500		
T	1.375	1.395		1.3817	1.3820	1.3820	1.3820		
U	2.000	2.020		2.0016	2.0020	2.0020	2.0020		
V									
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject				✓	✓	✓	✓		

Measured by: <u>SS</u>	Audited by: <u>B. G.</u>	DAS
Date: <u>11/06/21</u>	Date: <u>16/06/23</u>	CE
		9.00

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.12.06	Dimensions A,G,K,L,N,P revised	KJ/EC	
D	07.06.15	Dimension G revised	KJ/JLM	
E	08.04.21	Dimension E revised	KJ/DD	

DART AEROSPACE LTD		Work Order:	177333
Description: Outer Fwd Saddle		Part Number:	D5951
Inspection Dwg: D5951		Rev: B	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	5	6	7	8	By	Date
A	0.437	0.444		0.439	0.439				
B	1.745	1.755		1.750	1.750				
C	5.245	5.255		5.250	5.250				
D	6.995	7.005		7.000	7.000				
E	5.240	5.260		5.250	5.250				
F	4.745	4.755		4.750	4.750				
G	0.315	0.322		0.316	0.316				
H	1.522	1.532		1.527	1.527				
I	3.048	3.058		3.053	3.053				
J	4.575	4.585		4.580	4.580				
K	0.315	0.322		0.317	0.317				
L	0.495	0.505		0.500	0.500				
M	0.490	0.510		0.500	0.500				
N	1.615	1.635		1.625	1.625				
Q	7.990	8.010		8.000	8.000				
P	2.240	2.260		2.250	2.250				
Q	0.307	0.312		0.311	0.311				
R	0.760	0.765		0.760	0.760				
S	0.490	0.510		0.500	0.500				
T	1.375	1.395		1.3820	1.3820				
U	2.000	2.020		2.0020	2.0020				
V									
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

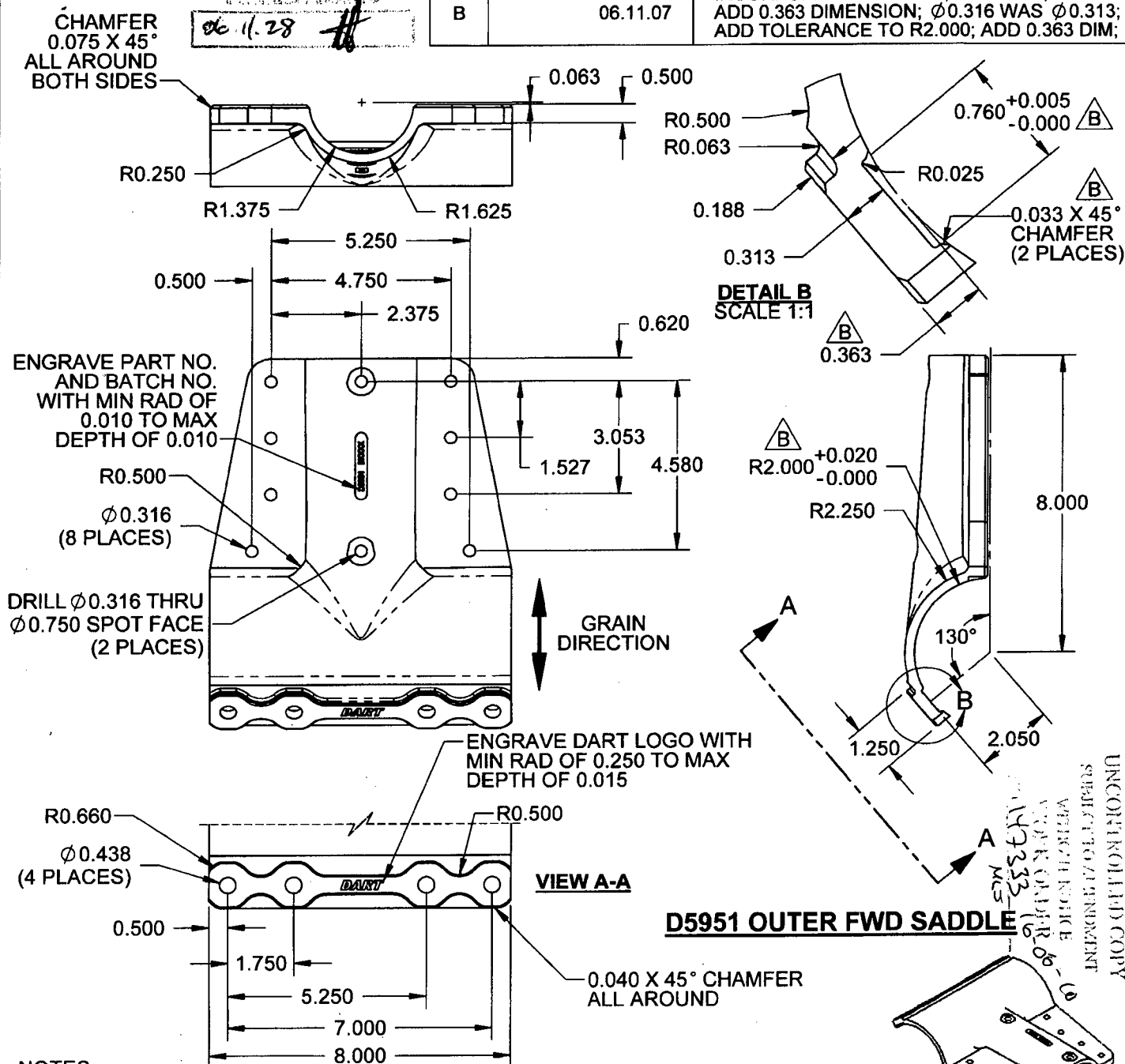
Measured by:	33 9.89
Date:	16/06/23

Audited by:	B.P.	DAS
Date:	16/06/23	09

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.12.06	Dimensions A,G,K,L,N,P revised	KJ/EC	
D	07.06.15	Dimension G revised	KJ/JLM	
E	08.04.21	Dimension E revised	KJ/DD	

DART

DESIGN BW	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>CE</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D5951	REV. B SHEET 1 OF 1
DATE 06.11.07	TITLE OUTER FWD SADDLE		SCALE 1:4
REV A	DATE 97.05.06	DESCRIPTION NEW ISSUE	
B	06.11.07	INCORPORATE DEO 9102, DEO 9079; ADD 0.363 DIMENSION; $\phi 0.316$ WAS $\phi 0.313$; ADD TOLERANCE TO R2.000; ADD 0.363 DIM;	

**NOTES:**

- 1) MATERIAL: ALUMINUM 7075-T7351 PER QQ-A-250/12
(MAKE FROM D6101-013 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.010 TO 0.020

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